We claim:

1. A method for immobilizing an affinity ligand onto a substrate comprising,

a) subjecting said substrate to a plasma treatment;

b) subjecting said substrate to a silanization treatment; and

c) subjecting said substrate to a crosslinking treatment.

2. The method of claim 1, whereby said substrate is a silicon substrate.

3. The method of claim 2, whereby said silicon substrate is a polydimethylsiloxane substrate.

4. The method of claim 1, whereby said step of subjecting said substrate to a silanization treatment includes subjecting said substrate to a silane selected from the group comprising aminosilane, sulfhydrylsilane, and epoxysilane.

5. The method of claim 4, whereby said silane is aminopropyltrimethoxysilane or mercaptopropyltrimethoxysilane.

6. The method of claim 1, whereby said step of subjecting said substrate to a crosslinking treatment includes subjecting said substrate to glutaraldehyde or N-γ-maleimidobutyryloxy succinimide ester.

7. The method of claim 1, whereby said substrate includes a fluidic channel.

8. The method of claim 7, whereby said fluidic channel is fabricated by silicon-based lithography.

9. The method of claim 1, further comprising,

d) binding said affinity ligand to said substrate.

10. The method of claim 9, whereby said affinity ligand is an antibody.

11. The method of claim 9, whereby said affinity ligand is an anti-cryptosporidium oocyst IgM.

12. A microfluidic affinity system comprising,

a) a substrate subjected to a plasma treatment, a silanization treatment, and a crosslinking treatment; and

b) an affinity ligand bound to said substrate;

13. The microfluidic affinity system of claim 12, whereby said substrate is a silicon substrate.

14. The microfluidic affinity system of claim 13, whereby said silicon substrate is a polydimethylsiloxane substrate.

15. The microfluidic affinity system of claim 12, whereby said silanization treatment includes subjecting said substrate to a silane selected from the group comprising aminosilane, sulfydrylsilane, and epoxysilane.

16. The microfluidic affinity system of claim 15, whereby said silane is aminopropyltrimethoxysilane or mercaptopropyltrimethoxysilane.

17. The microfluidic affinity system of claim 12, whereby said crosslinking treatment includes subjected said substrate to glutaraldehyde or N-γ-maleimidobutyryloxy succinimide ester.

18. The microfluidic affinity system of claim 12, whereby said substrate includes a fluidic channel.

19. The microfluidic affinity system of claim 12, whereby said affinity ligand is an antibody.

20. The microfluidic affinity system of claim 12, whereby said affinity ligand is an anti-cryptosporidium oocyst IgM.